

REMARKS

Claims 1, 4 and 5 are all the claims pending in the application.

Claims 1, 4, and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

Claims 1,4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Che et al. (U.S. Patent No. 5,604,587) in view of Reick et al. (U.S. Patent No. 3,641,332).

The Applicants traverse the rejections and request reconsideration.

Claim rejections under 35 U.S.C. § 112

Claim 1 has been amended to further clarify the structure recited therein. The Applicants refer the Examiner to the structure illustrated in Fig. 1. As shown in the exemplary embodiment illustrated in Fig. 1, the protection tube 10 is positioned outside the inner tube 9. Notwithstanding the Examiner's incorrect characterization to the contrary, the claim does not require that the protection tube be in physical contact with the inner tube. As required by claim 1, and as shown in the example embodiment of Fig. 1, an air layer is provided in between an inner tube and a protection tube.

Further, claim 1 has been found indefinite because allegedly air does not reflect. The Examiner appears to be completely incorrect in this characterization and appears to be making generalizations that are over broad and completely unrelated to the subject matter of the present invention. The claim does not require that air, standing alone, reflect light. The claim simply requires that an air layer forms a component of an overall combination, in which, the air layer acts as a reflective layer. In fact, the Examiner appears to be contradicting himself when in

reference to the rejections based on section 103(a), the air layer of Reick (item A of Fig 2 of Reick) is characterized by the Examiner as a reflective layer.

Rejection of claims 1,4 and 5 based on Che et al. in view of Reick et al.

The pending rejections have been withdrawn. However, the claims have been rejected based on the combined teachings of Che and Reick. In Reick, as shown in Fig. 1, an air layer A is provided between the core C and the outer tube T. In 5:66-75, Reick notes that reflection occurs at the interface of core C and the air film A.

As previously noted by the Applicants, Che requires a reflection layer (clad) made of resin such as polymer material. On the other hand, according to the present invention, the reflection layer is made of air layer.

Reick suggests an optical fiber having air layer acts as a reflection layer. However, the core of Reick is clearly different from the present invention. In Reick, as shown in Fig. 2, the core is made of resin such as polymethylmethacrylate. On the other hand, according to the present invention, the core is formed by inner tube (made of resin) and sample liquid flowing in the inner tube, which is optically integrated and acts as the core through which a light passing.

Che discloses a core formed by resin inner tube and sample liquid flowing in the inner tube. Reick discloses a clad formed of an air layer. However, a skilled artisan would not have been motivated to combine Che and Reick. The Applicants respectfully submit that such a combination is difficult to achieve. Additionally, Reick merely shows an optical fiber, but not an analyzing cell. Further, because Reick uses a solid core, the sample liquid cannot flow therein. Thus, Reick does not suggest flowing sample liquid in the optical fiber.

Further Che and the Reick belong to completely different technical fields. Therefore, a skilled artisan would not have been motivated to combine their respective teachings. In making this determination, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification. MPEP 2143.01 *citing In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

There does not appear to be any such suggestion in either Che or Reick to recognize the problems described in the background section of the present invention or any other indicia of desirability to combine the teachings of Che and Reick. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *Id.* *citing In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000).

To combine the teachings of Che and Reick, considerable modifications have to be made to the structure of Che and/or Reick. Further if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *Id. citing In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Specifically, the cladding 38 of Che is required to protect the capillary 12 from degradation due to light, moisture, oxidation and environmental conditions. Modifying Che to

include an air layer will in fact impede these advantages provided by Che. In fact, providing an air layer is believed to increase the possibility of degradation due to oxidation and moisture.

Claims 4 and 5 are dependent on claim 1. Therefore, they are patentable at least by virtue of their dependency.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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Date: January 3, 2006